

### ABSTRACT OF THE DISCLOSURE

A method, apparatus, and article of manufacture provide the ability to conduct magnetic resonance tomographic microscopy. A two-dimensional non-crystalline sample is placed under the influence of a static polarizing first magnetic field. A 5 radio-frequency field is then introduced perpendicular to the first magnetic field. To conduct the tomography, two or more magnetically resonant spins of the sample are simultaneously obtained by sequentially angularly rotating, around a prescribed axis, the sample with respect to a ferromagnetic sphere having a second magnetic field. The obtained spins are then used to reconstruct an image of the sample using 10 computerized tomography.

"Express Mail" mailing label number EV 328818320  
Date of Deposit MAY 20 2004  
I hereby certify that this paper or fee is being de-  
posited with the United States Postal Service "Express Mail"  
Post Office to Addressee" service under 37 CFR 1.10 on  
the date indicated above and is addressed to:  
Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Adriane M Baird

(printed name)

Susan M Baird

(signature)